

**REMARKS**

**Amendment to the Specification**

The title of the invention has been amended, as requested by the Examiner. Applicants believe that the amended title is indicative of the invention to which the claims are directed.

**Objections to Claims and Specification**

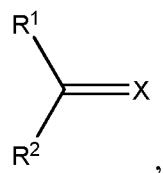
The Examiner objected to Claim 24 and the specification asserting that the word “substituent” is misspelled.

Applicants request clarification. Examination of Claim 24 and the specification by Applicants failed to identify the misspelled word. Applicants respectfully request the Examiner’s assistance in identifying the portions of the text in need of correction.

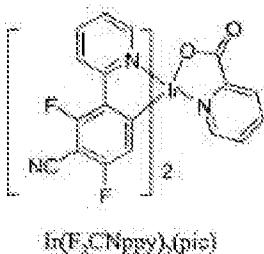
**Rejection of Claims 24-26, 29-33 and 41 Under 35 U.S.C. §103(a) over Yamagata and Tung**

Claims 24-26, 29-33 and 41, of which Claim 24 is independent, stand rejected as being unpatentable under 35 U.S.C. §103(a) over U.S. Pat. App. Pub. US2001/0051207 (“Yamagata”) in view of U.S. 7,211,823 (“Tung”).

The Examiner stated that Yamagata discloses the elements of Claim 24, but failed to teach a matrix material of formula



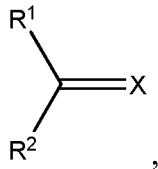
as recited in Claim 24. The Examiner also stated that Tung teaches a compound of the following structure in Figure 17:



The Examiner stated that the above-reproduced compound of Tung meets the limitation of Claim 24. Furthermore, although the compound of Tung is a phosphor, whereas the compound of Claim 24 is a “matrix material”, the Examiner stated that it would have been obvious for a person of ordinary skill in the art to combine the organic electroluminescent device of Yamada with a phosphor of Tung.

Applicants do not acquiesce to the merits of the Examiner’s argument for substituting a phosphor for a matrix material. However, even if one of ordinary skill in the art were to employ the phosphor of Tung as a matrix material, Applicants respectfully submit that the compound described in Figure 17 of Tung does *not* meet the limitations of Claim 24 and that, therefore, *no* combination of Yamagata and Tung results in the subject matter claimed in the instant application.

Indeed, Claim 24 recites that the matrix material is represented by the formula



and that the values of variables  $R^1$  and  $R^2$  “is the same or different in each instance and is *an aromatic or heteroaromatic system*” (*emphasis added*). The phrase “*aromatic or heteroaromatic system*” is defined in U.S. Pat App. Pub. US2006/0208221, incorporated by reference in the instant application<sup>1</sup>.

In particular, US2006/0208221 states in paragraph [0046]:

In the context of this invention, an aromatic or heteroaromatic system shall be understood to mean a system which does not necessarily contain only aromatic or heteroaromatic groups, but in which a plurality of aromatic or heteroaromatic groups may also be interrupted by a short nonaromatic unit [...] (*Emphasis added*.)

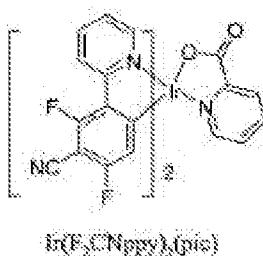
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<sup>1</sup> By the Amendment of January 8, 2009, Applicants amended the present application by inserting a new paragraph at page 9, after line 26, which describes the matrix material. The description of this essential subject matter is found in DE 10317556.3, page 5, fourth paragraph, through page 6, first paragraph. A copy of DE 10317556.3 has been submitted as Exhibit A with the Amendment of January 8. The English language translation of the corresponding German text is found in US 2006/0208221, paragraphs [0041] through [0045]. A copy of US 2006/0208221 has been provided as Exhibit B with the Amendment of January 8, 2009.

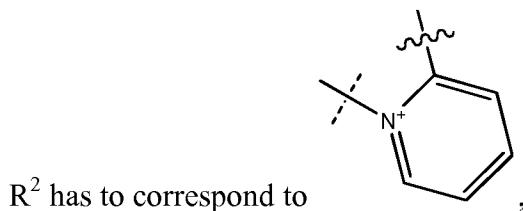
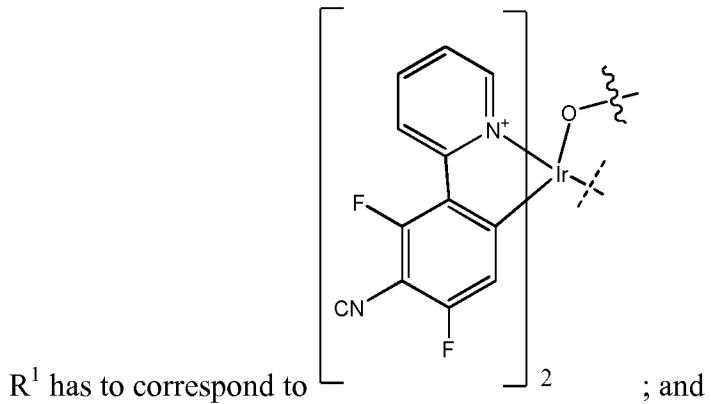
US2006/0208221, paragraph [0046], further exemplifies the aromatic or heteroaromatic “systems” as 9,9'-spirobifluorene, 9,9-diarylfluorene, triarylamine, or diphenyl ether.

Inspection of the above-reproduced definition and the examples indicates that *the carbonyl moiety in the compound of Claim 24 is bonded to either one of the following:* (1) an aromatic moiety, (2) an aromatic moiety bonded directly to another aromatic moiety, or (3) an aromatic moiety bonded to another aromatic moiety via at least one non-aromatic atom (*i.e.* a plurality of (hetero)aromatic groups “interrupted by a short nonaromatic unit”).

Applicants submit that the compound of structure

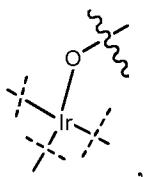


does not include moieties that corresponds to variables  $R^1$  and  $R^2$  of pending Claim 24. Indeed, for the above-depicted compound to meet the definitions of the matrix compound of Claim 24, the following correspondence of variables must be true:

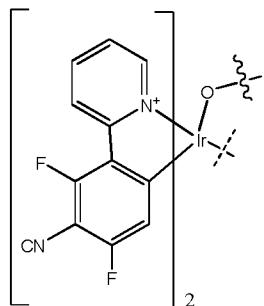


wherein the symbol denotes a bond to the C=O moiety, and the symbol denotes a bond between the Ir atom and carbon and nitrogen atoms of the phenyl or pyridine rings.

Based on the definition provided, R<sup>2</sup> includes a heteroaromatic group and, therefore, constitutes “an aromatic or heteroaromatic system.” However, although an R<sup>1</sup> includes both an aromatic and a heteroaromatic groups, it does not contain “a plurality of aromatic or heteroaromatic groups that are interrupted by a short non-aromatic unit.” In other words, there is no “short non-aromatic unit” that “interrupts” the aromatic and non-aromatic groups of R<sup>1</sup>. Further, although R<sup>1</sup> includes a “short non-aromatic unit,” namely:



it does not “interrupt” any “plurality of aromatic or heteroaromatic groups” of R<sup>1</sup>, as is required by Claim 24. Therefore, the moiety



is not an aromatic or a heteroaromatic “system”, and cannot correspond to variable R<sup>1</sup> of pending Claim 24. As such, the compound shown in Figure 17 of Tung falls outside the scope of the matrix compound, as defined in Claim 24.

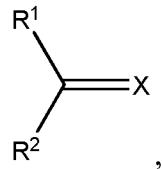
Accordingly, regardless of the intended use of the compound of Tung, the combination of Yamagata and Tung fails to result in the claimed subject matter.

Reconsideration and withdrawal of the rejection of Claim 24 and Claims 25, 26, 29-33 and 41, dependent on Claim 24, are respectfully requested.

Rejection of Claims 24, 27, 28, 34, 35, 45 and 47 Under 35 U.S.C. §103(a) over Thompson and Tung

Claims 24, 27, 28, 34, 35, 45 and 47 stand rejected under 35 U.S.C. §103(a) as being obvious over U.S. 6,166,489 (“Thompson”) in view of Tung (U.S. 7,211,823).

The Examiner stated that Thompson discloses the elements of Claim 24, but fails to teach a matrix material of formula



as recited in Claim 24. However, the Examiner stated, Tung teaches, in Figure 17, a phosphor compound that falls within the definition of the matrix material of Claim 24.

Applicants do not acquiesce to the merits of the Examiner’s argument for substituting a phosphor for a matrix material. However, even if one of ordinary skill in the art were to employ the phosphor of Tung as a matrix material, Applicants respectfully submit that the compound described in Figure 17 of Tung does *not* meet the limitations of Claim 24 and that, therefore, *no* combination of Thompson and Tung results in the subject matter claimed in the instant application. Applicants refer to the arguments presented above, with respect to the combination of Thompson and Tung.

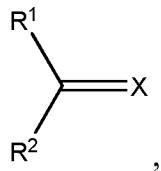
Accordingly, regardless of the intended use of the compound of Tung, the combination of Thompson and Tung fails to result in the claimed subject matter.

Reconsideration and withdrawal of the rejection of Claim 24 and Claims 27, 28, 34, 35, 45 and 47, dependent on Claim 24, are respectfully requested.

Rejection of Claims 24, 27, 28, 34, 35, 45 and 47 Under 35 U.S.C. §103(a) over Tutt and Tung

Claims 24, 27, 36-40 and 42-44 stand rejected under 35 U.S.C. §103(a) as being obvious over U.S. Pat. App. Pub US2006/0084347 (“Tutt”) in view of Tung (U.S. 7,211,823).

The Examiner stated that Tutt discloses the elements of Claim 24, but fails to teach a matrix material of formula



as recited in Claim 24. However, the Examiner stated, Tung teaches, in Figure 17, a phosphor compound that falls within the definition of the matrix material of Claim 24.

Applicants do not acquiesce to the merits of the Examiner's argument for substituting a phosphor for a matrix material. However, even if one of ordinary skill in the art were to employ the phosphor of Tung as a matrix material, Applicants respectfully submit that the compound described in Figure 17 of Tung does *not* meet the limitations of Claim 24 and that, therefore, *no* combination of Tutt and Tung results in the subject matter claimed in the instant application. Applicants refer to the arguments presented above, with respect to the combination of Tutt and Tung.

Accordingly, regardless of the intended use of the compound of Tung, the combination of Tutt and Tung fails to result in the claimed subject matter.

Reconsideration and withdrawal of the rejection of Claim 24 and Claims 27, 36-40 and 42-44, dependent on Claim 24, are respectfully requested.

Supplemental Information Disclosure Statement

A Supplemental Information Disclosure Statement (SIDS) was filed on July 8, 2009. Entry of the SIDS is respectfully requested.

**CONCLUSION**

In view of the above amendments and remarks, it is believed that all claims are in condition for allowance, and it is respectfully requested that the application be passed to issue. If the Examiner feels that a telephone conference would expedite prosecution of this case, the Examiner is invited to call the undersigned.

Respectfully submitted,

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